

Notice of Allowability**Application No.**

10/616,301

Applicant(s)

KIMCHY ET AL.

Examiner

ELMER CHAO

Art Unit

3777

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to claims filed 4/7/2009.
2. ☒ The allowed claim(s) is/are 1-16, 18, and -19.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date See Continuation Sheet
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 10/28/2010.
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other ____.

/Elmer Chao/
Examiner, Art Unit 3777

/Tse Chen/
Supervisory Patent Examiner, Art Unit 3777

Continuation of Attachment(s) 3. Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date:

5/4/2010;6/21/2010;7/11/2010;7/19/2010;7/25/2010;8/3/2010;8/12/2010;8/18/2010;8/23/2010;9/8/2010;9/21/2010;9/29/2010;10/3/2010.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Jason Rosenblum on 10/28/2010.

The application has been amended as follows:

In the claims:

1. (Currently Amended) A system for diagnosing a gastrointestinal tract, comprising:

an ingestible device, sized to be swallowed and arranged for traveling within a gastrointestinal tract of a body, comprising:

a probe, operative to acquire, along said gastrointestinal tract, a diagnostic image of nuclear radiation of a radiopharmaceutical;

data-handling apparatus, in signal communication with said probe, for receiving and handling imaging data, generated by said probe;

a power source, for powering said probe and data-handling apparatus; and

a shell, which encapsulates said probe, data-handling apparatus, and power source within,

wherein said ingestible device comprises a plurality of nuclear-radiation detectors, arranged around said probe, and
first circuitry comprising at least one sensor adapted to determine the location and orientation of the ingestible device in the gastrointestinal tract and
~~second the~~ circuitry is further adapted to reconstruct the diagnostic image based on said location and orientation.

9. (Currently Amended) A method of nuclear imaging, comprising:

providing a system for diagnosing a gastrointestinal tract, comprising:
an ingestible device, sized to be swallowed and arranged for traveling
within a gastrointestinal tract of a body, comprising:
a probe, operative to acquire, along said gastrointestinal tract, a
diagnostic image of nuclear radiation of a radiopharmaceutical;
data-handling apparatus, in signal communication with said probe,
for receiving and handling imaging data, generated by said probe;
a power source, for powering said probe and data-handling
apparatus; and
a shell, which encapsulates said probe, data-handling apparatus,
and power source within,
wherein said ingestible device comprises a plurality of nuclear
radiation detectors, arranged around said probe, and

first circuitry comprising at least one sensor adapted to determine the location and orientation of the ingestible device in the gastrointestinal tract and second circuitry adapted to reconstruct the diagnostic image based on said location and orientation;

scanning a radioactivity emitting source of at least two photon energies with said ~~at least one nuclear radiation detector, mounted on an~~ ingestible device, and obtaining a count rate for the at least two photons;

monitoring the position of the ingestible device using said first circuitry; and
calculating the depth of the radioactivity emitting source, at each position, based on the different attenuation of photons of different energies, emitted from the radioactivity emitting source.

15. (Currently Amended) The method of claim 9, wherein said ~~ingestible device comprises a~~ plurality of nuclear-radiation detectors, are arranged around the external surface of said ingestible device, for detecting gamma and beta radiation.

16. (Currently Amended) A method of diagnosing a gastrointestinal tract,
the method comprising:

providing a system for diagnosing a gastrointestinal tract, comprising:
an ingestible device, sized to be swallowed and arranged for traveling
within a gastrointestinal tract of a body, comprising:

a probe, operative to acquire, along said gastrointestinal tract, a diagnostic image of nuclear radiation of a radiopharmaceutical;
data-handling apparatus, in signal communication with said probe,
for receiving and handling imaging data, generated by said probe;
a power source, for powering said probe and data-handling apparatus; and
a shell, which encapsulates said probe, data-handling apparatus,
and power source within,
wherein said ingestible device comprises a plurality of nuclear radiation detectors, arranged around said probe, and
first circuitry comprising at least one sensor adapted to determine the location and orientation of the ingestible device in the gastrointestinal tract and
second circuitry adapted to reconstruct the diagnostic image based on said location and orientation;

inserting ~~an~~ said ingestible device comprising a probe and a sensor into a gastrointestinal tract of a body;

collecting diagnostic imaging data along said gastrointestinal tract by detecting nuclear radiation of a radiopharmaceutical using ~~a~~ said plurality of nuclear radiation detectors; ~~said nuclear radiation detectors are arranged around said probe;~~

determining the location and orientation of the ingestible device in the gastrointestinal tract by said ~~sensor~~ first circuitry; and

reconstructing a diagnostic image from said collected imaging data based on said location and orientation.

17. (canceled)

In the Specifications:

In page 1, line 13, --No. 10/616,307 -- has been inserted after "co-pending application".

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELMER CHAO whose telephone number is (571)272-0674. The examiner can normally be reached on Mon-Fri 6am-3pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Chen can be reached on (571)272-3672. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/E. C./
Examiner, Art Unit 3777

/Tse Chen/
Supervisory Patent Examiner, Art Unit 3777